perform global multipole expansions

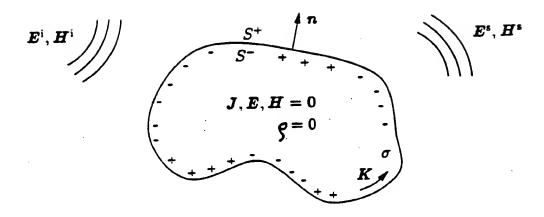
perform local

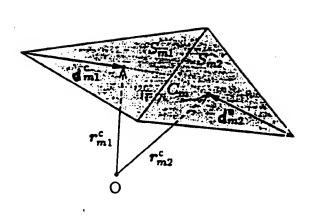
multipole expansions

determine the electromagentic field from the superposition of the multipole expansions which have been performed

-1~







## source element n observer element $S_{n2}$ $S_{m}$

FIG 5a

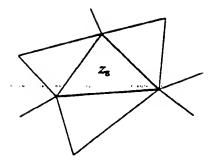


FIG 56

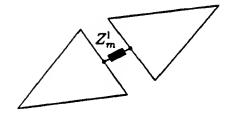


FIG6

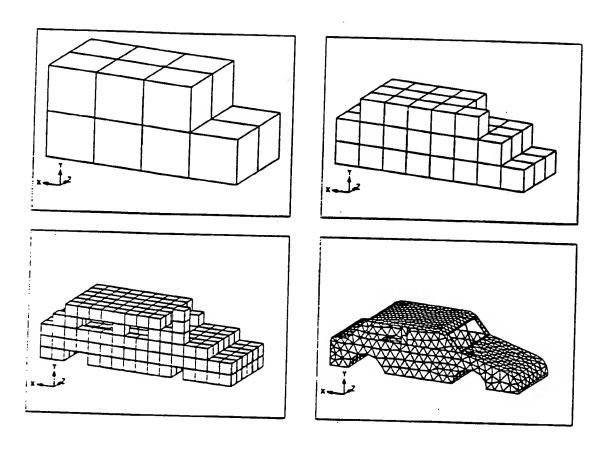
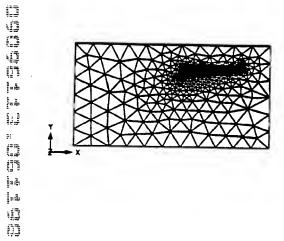
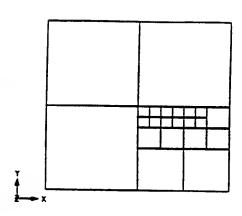


FIG7





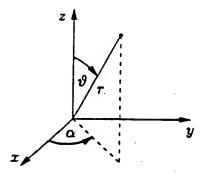


FIG ga

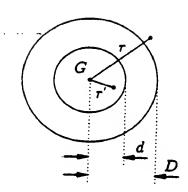


FIG 9b

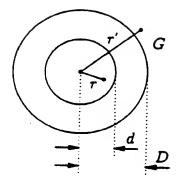


FIG 10a

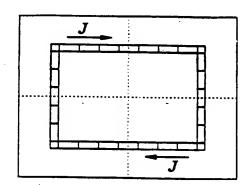
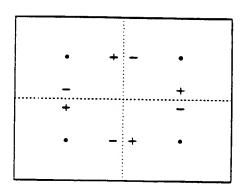


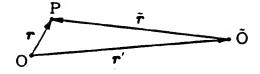
FIG 106



| × | × | × | × | × | ×   | ×  | ×   | × | × |
|---|---|---|---|---|-----|----|-----|---|---|
| × | × | × | × | × | ×   | ×  | ×   | × | × |
| × | × | × | × | × | ×   | ×  | ×   | × | × |
| × | × | × | × | × | ×   | ×  | ×   | × | = |
| × | × | × | × | × | 1/2 | 10 | 1/2 | × | = |
| × | × | × | × | × | 111 | 0  | 11  | × | × |
| × | × | × | × | × | 1/1 |    | 1   | × | × |
| × | × | × | × | × | ×   | ×  | ×   | * | × |
| × | × | × | × | × | ×   | ×  | ×   | × | × |
| × | × | × | × | × | ×   | ×  | ×   | × | × |

|   | observer region BG              |
|---|---------------------------------|
|   | neighbouring regions NG         |
|   | distant regions WEG             |
| * | global multipole expansion GMPE |
| • | local multipole expansion LMPE  |

FIG 12



| * | × | × |     | ж   |     | × |   |
|---|---|---|-----|-----|-----|---|---|
|   | × | × | ×   | ×   | ×   | × | × |
|   |   | × | ×   | ×   | ×   | × | × |
| × | × | * |     |     | 1/2 | × | × |
|   |   | × | 1/2 | 0   | 11  | × | × |
| _ | × |   |     | 1/2 |     |   | × |
|   |   | × | ×   | ×   | ×   | × | × |
| × | × | × |     | ×   |     | ж |   |
| L |   |   |     |     |     |   |   |

- O observer region BG

  neighbouring regions NG
- distant regions WEG
- global multipole expansion GMPE
- local multipole expansion LMPE